TOMSK POLYTECHNIC UNIVERSITY ТОМСКИЙ ПОЛИТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ

# Compilers (Professional English)

## Course Overview

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| **Level of study** | **Bachelor Degree** |
| **Workload** | **ECTS: 2**<br>**Total Hours: 36**<br>**Contact Hours:**<br>• **Lectures:**<br>• **Labs:**<br>• **Seminars: 36** |
| **Course Code** | |
| **Semester** | **Winter** |
| **Prerequisites** | **Programming** |
| **Course Objectives** | 1. **To learn the fundamental theory about graphs (definitions, theorems and their proofs)**<br>2. **To study the basic algorithms of graph theory and their modifications**<br>3. **To know applications of graph theory** |
| **Learning Outcomes** | 1. **Knowledge of the structure of a compiler and of compilation stages**<br>2. **Knowledge of formal language theory and its application in compilers**<br>3. **Skills in lexical, syntax and semantic analysis of programming languages**<br>4. **Skills in both oral and written scientific communications** |
| **Syllabus** | 1. **Lexical Analysis**<br>2. **Parsing**<br>3. **Semantic Analysis**<br>4. **Optimization**<br>5. **Code Generation** |
| **Labs** | |
| **Projects** | **Projects include implementing algorithms in a programming language, delivering lectures and seminars, writing reviews of scientific papers. Any other options can be considered.** |

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| **Assessment** | **Credit test** |
| **Resources** | **https://www.coursera.org**<br><br>**http://www.tutorialspoint.com/compiler_design/index.htm**<br><br>**http://dragonbook.stanford.edu/** |
| **Instructors** | **Yulia B. Burkatovskaya**<br><br>**http://portal.tpu.ru/SHARED/t/TRACEY/English** |